

ANNOTATED CHECKLIST OF THE WHITEFLIES (HOMOPTERA: ALEYRODIDAE) OF BERMUDA

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Abstract.—Ten species of whiteflies (Aleyrodidae) representing seven genera are reported from Bermuda. One species, *Aleurodicus cocois* (Curtis), has not been found since its original collection and apparently is not established in Bermuda. Nine species were introduced from eastern United States or the Caribbean region, and one species, *Aleyrodes proletella* (L.), was apparently introduced from Great Britain. Collection data, hosts, and general distribution are presented for each species, and comments are made about the economic importance of several species.

A historical account of the insects of Bermuda was provided by Nakahara and Hilburn (1989). As part of a project initiated by the junior author to upgrade the insect collection in the Bermuda Department of Agriculture and Fisheries (BDAF) and to update the knowledge of Bermuda's insect fauna, we surveyed the islands for whiteflies (Aleyrodidae) in June, 1988. Four species, *Aleyrodes proletella* (L.), *Paraleyrodes* sp., *Trialeurodes floridensis* (Quaintance), and *T. notata* Russell, were found for the first time in Bermuda during this survey. Two other species, *Paraleyrodes naranjiae* (Dozier) and *Bemisia tabaci* (Gennadius), found in Bermuda prior to and after the survey have not been reported in the literature. Of the ten species in seven genera reported here from Bermuda, only *Aleurodicus cocois* (Curtis) apparently is not established. Some of the native plants were examined for endemic whiteflies, but only introduced species were found. Nine of the species were introduced either from eastern United States or from the Caribbean region, and one species, *Aleyrodes proletella* (L.), was introduced apparently from Great Britain. In addition to the new species records, the following list includes species and host plants reported by Ogilvie (1928), Waterston (1941) and Mound and Halsey (1978). Six species reported for the first time from Bermuda are indicated with asterisks. Voucher specimens are deposited in the Bermuda National History Museum, which houses the main portion of the BDAF collection, and/or the whitefly collection of the United States National Museum of Natural History, Beltsville, Maryland.

Aleurodicus cocois (Curtis)

Ogilvie, 1928:23.

According to Ogilvie, this species was intercepted on coconut palms from Trinidad, in February 1928. Since then, it has not been collected in Bermuda. *Aleurodicus cocois* is reported from the Caribbean Islands, Central America, and several countries in South America.

Aleyrodes proletella (L.)*

'Waterville,' Paget, *Brassica* sp., 19-VI-88; S. Nakahara. Botanical Gardens, Paget, *Brassica* sp., 23-VI-88, D. Hilburn & S. Nakahara.

Reported by Mound & Halsey (1978:99) from Europe, USSR, Canary Islands, Egypt, Morocco, Kenya, Angola, Mozambique, Brazil and New Zealand. A polyphagous species; according to Mound (1966:404), an occasional pest of brussels-sprouts and cabbages in England.

Bemisia tabaci (Gennadius)*

Pomander Road, Paget, *Euphorbia pulcherrima*, 27-X-88, K. D. Monkman.

A cosmopolitan species and serious pest of various agricultural crops in tropical and subtropical regions of the world, and a vector of various viral diseases. In recent years, it has been found in greenhouses in colder regions on ornamental plants, especially poinsettias.

Dialeurodes citrifolii (Morgan)

Ogilvie, 1928:23; Waterston, 1941:18.

Devonshire, *Citrus sinensis*, 22-VI-88, D. Hilburn & S. Nakahara. 'Windy Bank Farm,' Smith's, *Citrus sinensis*, 22-VI-88, D. Hilburn, P. Stevens & S. Nakahara. Botanical Gardens, Paget, *Citrus* sp., 23-VI-88, S. Nakahara.

Recorded from the Orient and New World, and a pest of *Citrus*.

Metaleurodicus cardini (Back)

Mound and Halsey, 1978:244; Bennett et al., 1985:122.

Gilbert Nature Reserve, Sandy's, *Citharexylum spinosum*, 20-VI-88, D. Hilburn & S. Nakahara. Devonshire, *Citrus* sp., 22-VI-88, S. Nakahara & D. J. Hilburn. Botanical Gardens, Paget, *Psidium cattleianum*, 23-VI-88, S. Nakahara.

A common species in Bermuda on fiddlewood, *Citharexylum spinosum*; known from several Caribbean Islands and United States (Florida).

Paraleyrodes naranjæ (Dozier)
(as currently recognized)*

Devonshire, *Citrus* sp., 13-X-86, D. Hilburn. 'Windy Bank Farm,' Smith's, *Citrus sinensis*, 22-VI-88, D. Hilburn, P. Stevens & S. Nakahara. Botanical Gardens, Paget, *Citrus* sp., 23-VI-88, S. Nakahara.

Recorded from the West Indies and US (Florida and Hawaii).

Paraleyrodes sp.*

Botanical Gardens, Paget, *Citrus* sp., 23-VI-88, S. Nakahara.

This is apparently the same undescribed species known from Mexico and United States (California, Texas, Florida) on *Citrus*, *Chamaedorea*, and other hosts.

Trialeurodes floridensis (Quaintance)*

'Waterville' area, Paget, *Persea americana*, 19 & 23-VI-88, S. Nakahara.

This species is known from the US (Arizona, Florida), Caribbean Islands, Mexico, and Central America.

Trialeurodes notata Russell*

Spittal Pond Nature Reserve, Smith's, *Ipomoea villosa*, 21-VI-88, S. Nakahara.

Russell (1963:151) records this species in US from District of Columbia, Illinois, Kansas, Maryland, Missouri, New York, Pennsylvania and Virginia.

Trialeurodes vaporariorum (Westwood)

Ogilvie, 1928:23; Waterston, 1941:4, 16, 17, 21, 22, 26, 30, 50, 54, 56, 59.

'Waterville' area, Paget, *Lonicera* sp., *Nasturtium officinale*, *Sonchus oleraceus*, 19-VI-88, S. Nakahara. Spittal Pond Nature Reserve, Smith's, *Euphorbia* sp., 21-VI-88, S. Nakahara. 'Garthowen Estate,' Devonshire, *Alcea rosea*, *Helianthus annuus*, 22-VI-88, S. Nakahara & D. Hilburn.

Other recorded host plants are *Ageratum houstonianum*, *Citharexylum spinosum*, *Citrullus lanatus*, *Cucumis melo*, *C. sativus*, *Cucurbita maxima*, *Euphorbia peplus*, *Helichrysum bracteatum*, *Lycopersicon esculentum*, *Psidium guajava*, *Ruta graveolens*, *Solanum tuberosum*, *Tithonia rotundiflora*, *Verbena* sp. and *Zinnia elegans* (Ogilvie, 1928; Waterston, 1941).

A cosmopolitan species out-of-doors and in greenhouses. A serious pest of various agricultural crops and reported as a vector of several viral diseases in greenhouses in Europe and Japan.

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